Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

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February 1, 2013
Mr. Frank McAuliffe, Plant Manager
Strategic Materials, Inc.
45 Kenwood Circle
Franklin, MA 02038

RE: **Franklin, MA**
Transmittal No.: X237989
Approval No.: CE-11-012
Class: SM-25
FMF No.: 224198
SSEIS No.:1201072

Dear Mr. McAuliffe:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Waste Prevention, has reviewed your Non-major Comprehensive Plan Application ("Application") listed above. This Application concerns the operation of the glass recycling facility, located at 45 Kenwood Circle in Franklin, Massachusetts ("Facility"). The Plan Application first submitted on May 13, 2011, had the seal and signature of Eric Emmett (temporary permit number 2011-052-PE). A subsequent Plan Application and additional information regarding combustion equipment, outdoor material handling and additional baghouses submitted on August 5, 2011, January 6, 2012, January 13, 2012, and May 23, 2012, bore the seal and signature of Lynne P. Santos, Massachusetts P.E. No. 47225.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control," regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

Strategic Materials, Inc. ("SMI") receives post consumer glass beverage containers from curbside recycling and from municipal recycling facilities for the manufacture of glass cullet. The cullet is a raw material for the manufacture of beverage bottles. Processing and production of the cullet is conducted with use of feed hoppers, transfer conveyors, manual trash removal operations, crushing, screen operations, magnetic metal removal, and a natural gas dryer to dry the cullet. The Facility operates two electrical process lines. The Optical Process Line can process and produce a maximum of 25 tons of cullet per hour and the Color Process Line can process and produce a maximum of 35.48 tons of cullet per hour. The Facility's maximum potential cullet production is 529,761 tons per year. Cullet production is limited by the maximum capacity of the crushing operation. The Facility operates twenty four (24) hours per day and seven (7) days per week.

History
An Administrative Consent Order with Penalty (ACOP-CE-11-9012-7) was issued to SMI on April 14, 2011, for the failure to obtain an Air Quality Plan Approval from the MassDEP for the installation and operation of a fossil fuel burning cullet tumble dryer and the associated baghouse. On May 13, 2011, the comprehensive plan application, BWP AQ-02, was submitted to MassDEP without information pertaining to the fossil fuel burning equipment. On August 5, 2011, after receiving an administrative deficiency, SMI submitted additional information pertaining to the dryer and dust minimization procedures associated with the cullet manufacturing operation. SMI provided an Inquiry Response dated January 6, 2012, and a Modification Submittal of Non- Major Comprehensive Plan Approval dated January 13, 2012.

On May 21, 2012, SMI submitted information for two (2) additional baghouses to control particulate matter inside the Facility. Although the Facility is located within a commercially and industrially zoned area, the operations at the Facility such as glass crushing and material management have the potential to produce sound levels that exceed the MassDEP`s noise policy. The Permittee has retained the services of Cavanaugh Tocci Associates, Inc., a consulting firm with expertise in acoustics. As required by this Plan Approval, the consulting firm will conduct compliance sound monitoring for the operations at the Facility and submit a report containing results and compliance determination with the MassDEP's sound policy. The Permittee will address and mitigate any sources of sound that exceed the MassDEP sound policy.

On May 23, 2012, the Facility suffered fires that originated in the dryer and caused extensive damage in the dryer and the baghouse. On June 12, 2012, MassDEP approved the emergency installation of the replacement dryer and baghouse allowing SMI to resume operations.

This Plan Approval represents Best Available Control Technology ("BACT") which is defined in Table 2 for this operation.

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1

EU#	Description	Design Capacity	Pollution Control Device (PCD)
1	Exterior operations- Raw material (post consumer glass) and finished product (cullet) : handling, storing and material transfer		Dust minimization procedures including, but not limited to: a) Containment of materials within covered bins enclosed on three sides b) Covered delivery vehicles c) Daily mechanical vacuum sweeping of the yard d) Wind walls e) Good operating and maintenance practices f) Wetting of dry materials, as needed

Table 1			
EU#	**Description**	**Design Capacity**	**Pollution Control Device (PCD)**
2	Interior operations- Optical Line and Color Line Processing: crushing, sorting, screening, drying, sizing and vacuum	529,761 tons per year cullet production for the entire Facility <u>Optical Line:</u> 25 tons cullet produced per hour <u>Color Line:</u> 34.48 tons cullet produced per hour	• Baghouses : a) Advanced Integrated Resources, Inc. (AIR)[1] Model 1610JFD12 fabric filter baghouse rated at 17,000 cfm at ambient temperatures 99.9% overall PM control Broken bag detection system Pressure drop operating range 2"- 3.5" water gauge b) Seneca[2] model G100IMT6 fabric filter baghouse rated at 7000 scfm at ambient temperatures 99.9% overall PM control Pressure drop operating range 2"- 3.5" water gauge c) Scientific Dust Collector[3] Model SPJ-448-4T6 99.9% PM control 41,000 cfm at 140 ^{0} F Pressure drop operating range 2"- 3.5" water gauge Spark detector and automatic shutdown system sequence Broken Bag detection system • Building Enclosure provides 95% PM capture efficiency
3	Fluidized dryer / tumbler Carrier ADHE-140-N1-N-R-GR-D0-L1-2000-0 on the Optical Line	14,000,000 BTU/hr Natural gas 30 tons per hour (wet)	Scientific Dust Collector controls PM emission resulting from natural gas combustion.

Table 1 Notes:

1. **AIR, Inc** baghouse controls PM on the following Color and Optical Lines pieces of equipment (facility designation):
   - Optical Line pieces of equipment controlled by the AIR:
     - ¼" screen (O33)
     - Air knife (O14)

- ¼" screen (O15)
- Redwave (1500) CSP- ½ " and + ½ " metals (O16 & O17)
- Redwave (1300) color – ½" and + ½" – (O19/O20)
- Elevator conveyor (O26)
- Redwave – ½" (1300) CSP (O27)

- Color Line pieces of equipment:
  - final screen (C10)

2. **Seneca** baghouse controls PM on the following Optical Lines pieces of equipment:
   - 3 tier finger screen 3/8 " (O6)
   - Vacuum (after roll crusher) (O9)

   Note: this baghouse exhausts inside the building
3. **Scientific** baghouse controls PM on the Carrier dryer on the Optical line (O12) and the following Color Line pieces of equipment:
   - Air knife (C16)
   - Vacuum (C8)

Table 1 Key:

BTU/hr= British Thermal Units per hour	cfm= cubic feet per minute
EU# = Emission Unit Number	" = inches
PCD = Pollution Control Device	% = percent
PM = Particulate matter. PM includes particulate matter having a diameter of 10 microns or less (PM_{10}) and particulate matter having a diameter of 2.5 microns or less ($PM_{2.5}$)	^0F = degrees Fahrenheit

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

	Table 2			
EU#	**Operational / Production Limit**	**Raw material**	**Air Contaminant**	**Emission Limit (TPY)**
1	N/A	Glass	PM [1]	3.12
			PM-10	1.51
			Opacity	≤10% (6 minute average) , not to exceed 20% opacity at any time
			Odor	Follow practices in Attachment A
2	60.48 tons /hr	Glass	PM [2]	17.66
			PM-10	4.27
			Opacity	≤10% (6 minute average) , not to exceed 20% opacity at any time
2-3	Combined Optical and Color Lines: • 54,750 tons cullet produced per 30 day rolling period; • 657,000 tons cullet produced during a 12 month rolling period			
3 [3, 4]	10.22 mmcf/mo [5] 122.64 mmcf/yr [6]	Natural gas	PM	0.46
			Opacity	Not to exceed 0% opacity at any time
			NOx	6.13
			SO_2	0.04
			CO	5.15
			VOC	0.34
			HAP (individual & combined)	0.12

	Table 2			
EU#	**Operational / Production Limit**	**Raw material**	**Air Contaminant**	**Emission Limit (TPY)**
Facility Wide			PM	21.24
			PM-10	5.78

Table 2 Notes:

1. Fugitive particulate emissions (PM and PM-10) resulting from exterior activities such as receiving inbound materials, moving materials into storage bunkers and shipment of finished materials, wind erosion, vehicular activity were calculated using emission factors found at AP-42, Chapter 13.2 - Miscellaneous Sources,.

Wind walls located on the outside perimeter of the site, are estimated to provide 70% overall control efficiency of PM and PM 10 from wind erosion of the raw and finished material storage bunkers, and optical sort bunkers.

2. The emission factors contained in AP-42, Section 11.19- Mineral Products are utilized to calculate particulate emissions (PM and PM-10) from the building that houses the Optical and Color lines processes. The building is estimated to provide equal to or greater than 95% capture efficiency of particulate matter (PM) and PM-10. Baghouse efficiencies are listed in Table 1.

3. The emission factors contained in AP-42, Table 1.4-2- External Combustion Sources are utilized to calculate pollutant emissions associated with the combustion of natural gas in the dryer. Emission factors are incorporated herein by reference.

4. The emission factors contained in AP-42, Table 11.19.2-2 -Crushed Stone Process Operations (8/04) are utilized to calculate pollutant emissions associated with debris resulting from the processing of waste paper material mixed with the crushed glass. Emission factors are incorporated herein by reference.

5. Monthly limits based on 30 day rolling period

6. Annual limits based on 12 month rolling period

Table 2 Key:

EU= emission unit
CO = Carbon Monoxide
VOC = Volatile Organic Compounds
tons/hr= tons per hour
mmcf/mo = million cubic feet per month
mmcf/yr= million cubic feet per year
%= percent
NO_x = Nitrogen Oxides
SO_2 = Sulfur Dioxide
HAP = Hazardous Air Pollutant
TPY = tons per consecutive 12- month period
PM-10 = Particulate Matter $\leq$ to 10 microns in diameter
PM = Particulate matter. PM includes particulate matter having a diameter of 10 microns or less (PM_{10}) and particulate matter having a diameter of 2.5 microns or less ($PM_{2.5}$)

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3	
EU#	**Monitoring and Testing Requirements**
1	1. The Permittee shall conduct visual inspections as needed, but no less than once every 7 calendar days, to ensure that dust emissions do not exceed 10% opacity using USEPA Method 9, and at no time shall opacity exceed 20%.
	2. The Permittee shall conduct visual inspections daily, using USEPA Method 22, Visual Determination of Fugitive Emissions.
	3. The Permittee shall monitor as needed, but no less than once daily, to determine if particulate matter from the site is being dragged out by truck tires onto Kenwood Street where it may become airborne and contribute to a condition of air pollution.
	4. The Permittee shall monitor as needed, but no less than once daily, haul trucks and front loader speeds to ensure compliance with the posted speed limits and to minimize dust.
	5. The Permittee shall conduct visual inspections as described in Attachment B, "Dust Control and Work Practices".
	6. The Permittee shall conduct inspections of operations as needed, but no less than once daily to ensure there is a maximum drop height of 2 feet or less when transferring materials at all outdoor processes with the exception of loading finished materials into trucks.
	7. The Permittee shall conduct inspections of the wind wall as needed, but no less than once daily, to ensure that they are free of defects and adequately prevent dust emission from leaving the site. Special attention must be given to ensure that the wind wall is high enough.
	<u>Opacity Evaluation</u> 8. Within 45 days of this Plan Approval, the Permittee shall submit an opacity evaluation testing protocol to the MassDEP for approval. The protocol shall include a diagram of the outside locations where opacity readings will be conducted and the credentials of the Method 9 certified observer.
	9. Within 30 days of receiving approval for the written opacity evaluation protocol, the Permittee shall have an opacity evaluation performed to determine compliance with the allowable opacity limits listed in Table 2. The observer must be certified to determine compliance in accordance with USEPA, Method 9.
	10. Once every 7 calendar days thereafter, the Permittee shall obtain the services of a consultant or utilize a SMI employee to conduct visible emission readings**.** The observer must be certified to determine compliance in accordance with USEPA, Method 9.
	11. The Permittee shall monitor the process areas for the presence of odors once per day per Attachment A, "Odor Control and Response Plan".
2-3	12. The Permittee shall continuously monitor the pressure differentials on all baghouses serving the cullet processing lines and the dryer by installing and operating a magnehelic, manometer, or photohelic on the baghouses. The monitoring equipment shall be properly calibrated and maintained by the Permittee in a sufficient manner to ensure continuous and accurate operations at all times. SMI personnel must record the pressure differential reading once per shift .
	13. The Permittee shall inspect all baghouse collection hoppers for high levels once per shift in accordance with Attachment C, "Baghouse Inspection and Maintenance Guidance Document".
	14. The Permittee shall conduct a black light test using fluorescent powder and an ultraviolet light at least once on all baghouses annually to locate torn bags, broken welds, leaks in the cell plates, tube sheets or the baghouse housing using fluorescent powder and a black light.
	15. The Permittee shall follow the inspection protocol as described in Attachment C, "Baghouse Inspection and Maintenance Guidance Document".

Table 3	
EU#	**Monitoring and Testing Requirements**
	16. The Permittee shall install and properly operate the Broken Bag Detection Systems with audible alarm (Filter Sense PM 100 or equivalent).
	17. The Permittee shall install and properly operate the electrical interlock systems so that no material may enter the process until the blowers associated with the dry air filters are properly operating.
	<u>Baghouse Efficiency Testing</u> 18. Within 45 days of this Plan Approval, the Permittee shall submit a pre-test protocol for evaluating the efficiency of each baghouse at the Facility, to MassDEP. It shall include the operating parameters at the Facility that will be in effect at the time of the test, e.g. equipment in operation, manometer readings. 19. Within 30 days of receiving approval of the written test protocol, the Permittee shall conduct a baghouse efficiency test on all baghouses to determine compliance with the allowable efficiencies listed in Table 2. The Permittee shall ensure that any compliance tests that may be required at this Facility shall be conducted in accordance with procedures set forth by the appropriate USEPA Reference Test Methods and Massachusetts Air Pollution Control Regulation 310 CMR 7.13.
Facility Wide	20. Compliance with the allowable opacity limits shall be determined in accordance with USEPA Method 9, as specified in 40 CFR 60, Appendix A, once weekly.
	21. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13.
	22. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.

Table 3 Key:

CMR=Code of Massachusetts Regulations
EU# = Emission Unit Number
USEPA=United States Environmental Protection Agency

Table 4	
EU#	**Record Keeping Requirements**
1	1. The Permittee shall maintain adequate records on site that document daily, monthly, and annual incoming material throughputs.
	2. The Permittee shall maintain a Odor Complaint Log pursuant to Attachment A.
Facility Wide	3. The Permittee shall maintain an Inspection Log for inspections conducted pursuant to Attachments A, B, and C. The Inspection Log additionally shall indicate if the Facility was in compliance with limits identified in Table 2 for dust and /or odor, what caused the odor or dust emissions and what action was taken to attain compliance with this Plan Approval. The Inspection Log shall be dated, initialed and contain the title of the employee that conducted the inspection. It shall be readily available for the Franklin Board of Health or MassDEP staff upon request.
	4. The Permittee shall maintain a Training Record of employees indicating the date of training(s) and names of employees trained in each of the requirements listed in Attachment A, B, C and especially on all aspects of compliance with this Plan Approval.

Table 4	
EU#	**Record Keeping Requirements**
Facility-wide	5. Maintain a log book that identifies the name of the certified visible emission observer and a copy of their current certification, the date and time and the location where the readings were taken.
	6. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2, above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be utilized, and downloaded at http://www.mass.gov/dep/air/approvals/aqforms.htm#report.
	7. The Permittee shall maintain a Preventative and Corrective Measures Log Book that documents all maintenance, and repairs of the Facility such as daily sweeping of the yard as required by the Dust Control Plan and Work Practices (Attachment B), baghouse maintenance required by the Baghouse Inspection and Maintenance Plan (Attachment C), and as applicable, the water spray system, wind walls and curtain enclosures on doors.
	8. The Preventative and Corrective Measures Log Book shall document all routine maintenance activities performed on the approved EU(s), PCD(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date the work was completed.
	9. The Permittee shall document all malfunctions affecting air contaminant emission rates on the approved EU(s) and PCD(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	10. The Permittee shall maintain records of monitoring, testing, and results as required by Table 3 including the opacity compliance evaluation, baghouse efficiency tests, and Blacklight tests.
	11. The Permittee shall maintain on-site a copy of this Plan Approval including Attachments A, B and C, any updates to the Attachments, the underlying Application, and the most up-to-date SOMP for the EU(s) and PCD(s) approved herein.
	12. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12, Source Registration.
	13. The Permittee shall retain records required by this Plan Approval and copies of source registration submitted to the Department, on-site for a minimum of five (5) years.
	14. The Permittee shall make records required by this Plan Approval available to MassDEP personnel upon request.

Table 4 Key:

EU# = Emission Unit Number
PCD(s) = Pollution Control Device(s)
SOMP = Standard Operating and Maintenance Procedure
USEPA = United States Environmental Protection Agency

Table 5	
EU#	**Reporting Requirements**
1	1. The Permittee shall submit to MassDEP an opacity evaluation report, within 30 days after completion of the evaluation, as defined in Table 3, Monitoring, and Testing Requirements.
2-3	2. The Permittee shall submit to MassDEP, a final baghouse efficiency report, within 45 days after compliance testing, as defined in Table 3, Monitoring, and Testing Requirements.
Facility-wide	3. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	4. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone 508-767-2845, email, CERO.Air@massmail.state.ma.us, or fax 508-792-7621 as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	5. The Permittee shall complete and submit source registration forms every three years to MassDEP, in accordance with 310 CMR 7.12. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2) (e), 7.03, 7.26, etc.), which did not require Plan Approval.
	6. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30 days from MassDEP's request.
	7. The Permittee shall notify the MassDEP of any pending compliance testing (baghouse efficiency or opacity compliance readings) at least 10 days prior to the actual test date so that MassDEP may be present.

Table 5 Key:

EU# = Emission Unit Number

4. SPECIAL TERMS AND CONDITIONS

A. The Permittee is subject to, and shall comply with, the Special Terms and Conditions as contained in Table 6 below:

Table 6

EU#	Special Terms and Conditions
1	1. The Permittee shall utilize good operating practices to prevent air borne dust emissions.
	2. Exterior piles shall not exceed beyond the confines of the existing storage bunkers or any temporary structure(s) erected unless fine water misting is utilized.
	3. All interior facility roads shall be paved.
	4. The Dust Control Plan and Work Practices (Attachment B) shall be implemented as needed. The Plan shall become an integral part of the employee training protocol and shall be reviewed annually by a responsible official for improvements, or as necessary.
	5. The yard shall be mechanically swept with a vacuum sweeper, with water, capable of collecting glass particles deposited on the access road and in the enclosed yard. Vacuuming and sweeping of the yard shall be documented in a daily maintenance log.
	6. If mechanical sweeping / vacuuming of the yard is insufficient to minimize dust, then water nozzles of sufficient number and pressure shall be installed at all dust generating points including the entrance/ exit to the Facility and the interior facility roads.
	7. Vehicles arriving or leaving the Facility with either raw material or cullet shall be covered with a tight fitting tarp to minimize dust being discharged from the vehicle.
	8. MassDEP reserves the right to require additional air pollution control measures on the handling and storage of materials (raw and finished product) as needed to bring the Permittee into compliance with the this Plan Approval.
	9. Visible dust emissions from the material transfer points, delivery, or storage of raw or finished material shall be minimized through the use of covered storage containers, covered conveyors, and hoppers and/or the Permittee may install fine water mist nozzles located so that the entire uncovered pile, hopper or dust emission point may be wetted. If the volume of storage piles exceeds the boundaries of the existing bunkers, then additional dust suppression measures must be employed that may include the use of temporary structures or covers or water misting.
	10. Any water misting shall not contribute to a storm water discharge.
	11. A wind wall is approximately eight hundred (800) feet in length and thirty (30) feet high that begins approximately one hundred eighty (180) feet from the northwest corner of the Facility to approximately two hundred fifty (250) feet from the southwest corner of the Facility. It shall be modified with fabric mesh to provide additional dust control, if required.
	12. An exterior six (6) foot chain link fence with plastic slats installed at the Facility approximately one hundred twenty five (125) feet from the northeast corner of the facility counterclockwise around the facility to approximately one hundred twenty five (125) feet from the southeast corner of the Facility with two breaks at the Facility driveways at the northwest corner of the Facility entrance.
	13. If the MassDEP determines that the thirty (30) foot wind wall and / or the six (6) foot fence surrounding the site is insufficient to contain dust on the site and the fence or wind wall needs to be extended or repaired then the Permittee shall comply within 21 days of notice by MassDEP.
	14. The Permittee shall take action to restrict traffic speed with posted signs.
	15. The Permittee shall utilize properly maintained truck pads as necessary to prevent dust from being transported off site from the Facility.

Table 6	
EU#	**Special Terms and Conditions**
2 - 3	16. The Permittee shall maintain an inventory of baghouse parts and replacement bags on- site for emergency malfunctions.
3	17. The baghouse serving the dryer shall operate at all times when the dryer is operating.
	18. The dryer shall be maintained and operated according to manufacturer's recommendations for proper fuel combustion.
Facility-wide	19. The Permittee shall conduct sound level monitoring for the operations at the Facility and submit a report to the MassDEP containing results, compliance determination with the MassDEP's policy BWP 90-001 ("Sound Policy") and actions taken to mitigate any source of sound that exceed the MassDEP's sound policy.
	20. The Odor Control and Response Plan (Attachment A) shall be located on site and implemented as necessary.
	21. The Permittee shall train employees in the requirements pursuant to Attachments A, B, And C.
	22. Facility doors and conveyor openings shall be equipped with plastic strips that extend the length and width of the door or opening to prevent PM from discharging into the ambient air. Plastic strips are 12 inches wide by 0.120 inches thick. Plastic strips shall provide at least 50% overlap.
	23. The Permittee shall update Attachments A, B, and C on an as-needed basis and submit the updates to MassDEP.

Table 6 Key:

EU# = Emission Unit Number
%= percent

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as "shanty caps" and "egg beaters."

C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU#	**Stack Height Above Ground (feet)**	**Stack Inside Exit Dimensions (feet)**	**Stack Gas Exit Velocity Range (feet per second)**	**Stack Gas Exit Temperature Range (^{o}F)**
1[1]	NA	NA	NA	NA
2[2]	50	2.5	55-66	70 - 200

Table 7				
EU#	**Stack Height Above Ground (feet)**	**Stack Inside Exit Dimensions (feet)**	**Stack Gas Exit Velocity Range (feet per second)**	**Stack Gas Exit Temperature Range (^{o}F)**
2-3[3]	50	4	45-55	130-170

Table 7 Notes:

1. EU#1 - outdoor process- no stacks
2. EU#2 - inside process lines, Air baghouse stack
3. EU #2 and #3 - Scientific Dust Collector stack

Table 7 Key:

EU# = Emission Unit Number
^{o}F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).

B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.

D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.

H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

J. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.

K. Pursuant to 310 CMR 7.01(3) and 7.02(3) (f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6) (b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, MassDEP by telephone at 508-792-7650, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Roseanna E. Stanley
Acting Permit Chief
Bureau of Waste Prevention

Enclosure
ecc: Franklin Dept of Health
Franklin Fire Department
MassDEP/Boston - Yi Tian
Nicole Collett, August Mack Environmental

Randall Slinkard, SMI
MassDEP/CERO-Kim McCoy
Randel Prewitt, SMI

Attachment A
Odor Control and Response Plan

Introduction

Glass recycling, by its nature, has operational odors since broken post-consumer beverage containers often contain trace residues of sugars, yeasts, or other bio-nutrients which produce distinct odors if significant concentrations are present. The purpose of this document is to provide training on odor prevention and control and to establish a response plan should the Strategic Materials Inc. ("SMI") Facility receive an odor complaint.

The Science of Odor

Odors are measured by using their concentration, character, intensity, persistence, frequency, and duration.

Concentration
There are two ways the threshold of odors can be measured: detection threshold and recognition threshold. Odor concentrations are called odor units ("ou"). Odor units are defined as the volume of diluted air divided by the volume of odorous sample air at either detection or recognition. Detection threshold is how much an odor is diluted before it is undetectable by trained panelists. Recognition threshold is how much an odor must be diluted to a point where trained panelists can still recognize the odor.

Character
This is also known as 'odor quality'. This is a process of using odor or character descriptors to provide a verbal description to odor quality. There is a standard odor descriptor available for use: the Flavor Wheel published by the International Association on Water Pollution Research and Control ("IAWPRC").

Intensity
This is the strength of the odor above the threshold of an approved standard gas. The odor is usually compared to known concentrations of butanol to give a specific intensity value. The threshold can also be determined with an olfactometer to give odor units. Odor units represent the number of times the air needs to be diluted before the odor is no longer detectable. Odor intensity decreases with dilution.

Persistence

A term used in conjunction with intensity. The intensity of an odor will change in relation to its concentration; however the rate of change of intensity with concentration is not the same for all odors. The rate of change is the persistency. The persistence of an odor can be shown by a dose-response function. The dose response function describes how long it can take to dilute an odor below detection threshold. The more air it takes to dilute an odor, the higher the persistence.

Frequency and Duration
This can also be described as hedonic tone. These terms are used to describe odoriferous events that can significantly affect people. Mathematical models have been developed to estimate the concentration of specific gases downwind from a source. Odors are rated using a scale from minus10 ("-10") to positive 10 ("+10"), where –10 is very unpleasant and +10, is very pleasant. A neutral odor is given a zero. This method accounts for breakdown of gases and dispersion during different weather conditions. These parameters are also called concentration or threshold, or hedonic tone.

Odor Inventory at the Franklin Plant

The following potential odor sources have been identified:

1. Unprocessed beer or wine bottle cullet;
2. Wet paper residue from glass bottle labels;
3. Unprocessed inventory received from Municipal Recovery Facilities (MRFs);
4. Stagnant water (detention pond); and
5. Oil/water separator filters

Odors from these sources are either diminished or eliminated altogether during winter months. Fortunately, none of these sources have been historically significant enough to have resulted in a complaint from any neighbor, regulatory agency or employee.

Odor Control Practices

The following steps will minimize odors:

1. The Permittee shall monitor the process areas for the presence of odors once per day.
2. Quality control screening for inbound inventory shall be performed. It should take into consideration any inbound material with uncharacteristically intense and/or persistent odor(s) as this may be a sign that the inbound material does not otherwise meet quality specifications for non-glass residue and should be rejected and returned to the originator.
3. Inbound material that does not meet quality specifications shall be rejected and returned to the originator.
4. Inventory shall be processed as soon after being received as it is practical.

5. Any significant accumulation of liquid residue which may leach from unprocessed inventories shall be cleaned up with absorbent pads and the absorbent pads discarded in the trash.
6. Trash hauling schedules shall be maintained.
7. Treat sources of intense odor with odor masking agent such as Zep Odor Control Concentrate.
    a. Maintain an inventory of sufficient quantities of odor masking agent as needed based on local availability and delivery times. For example, if a response uses 10 gallons of concentrate and 10 gallons is available from local vendors in 2 days then, the Permittee should keep 20 gallons on hand and in inventory at all times for use in the event of an odor complaint or the need to utilize the odor masking agent.
    b. Maintain a backpack pump sprayer at the Facility for use in the application of the odor control masking agent.
    c. Read and follow all safety precautions from product labeling and MSDS during application of the product.

Responding to Odor Complaints

Establish a positive working relationship with neighbors and community members

1. Maintain relationships with neighboring businesses.
2. Encourage neighboring businesses to notify quickly the Facility if any odor is detected and becomes a problem, so immediate investigatory and corrective actions can be taken.
3. After investigative and corrective actions have been taken to mitigate the odor, follow-up with the complainant to ensure a satisfactory resolution to incident.
4. If the Facility cannot mitigate the odor complaint or can mitigate the odor complaint but not to the complainant's satisfaction, notify both SMI Area Manager and the SMI Corporate Office in Houston for additional guidance or resources.

For each odor complaint:

1. Document the complaint with the following information:
    a) Date and time the complaint was received.
    b) Name, address, and contact information for complainant.
    c) Precise date and time and duration of odor.
    d) Wind direction.
    e) A description of the odor.

   f) Frequency of the odor (e.g. is the odor continuous, recurring, occasional, or isolated?).
   g) Request permission to enter the complainant's property and document your own observations concerning the odor.
2. Investigate and document the source of the odor within the Facility.
3. Review whether odor control practices are being followed, and if not, implement odor control practices and determine whether the source of the odor has been eliminated.
4. Determine whether additional odor control practices may be necessary. If so, notify the MassDEP, Worcester, Massachusetts and the SMI Corporate Office in Houston of the need to update this Plan accordingly.
5. If a masking agent such as Zep Odor Control Concentrate is being utilized, follow up with the complainant to ensure that the complainant does not consider the masking agent to be another offensive odor or irritant.
6. Document all efforts to investigate the source of the odor, the findings as to the source of the odor, and the steps to eliminate the odor.
7. Notify the complainant of the steps taken to control the odor and that if the complainant is not satisfied with these steps, or the odor persists, contact the Strategic Materials, Inc Environmental, Health and Safety Department in Houston, Texas at **281.647.2700**.

Attachment B
Dust Control Plan and Work Practices

Purpose

The purpose of this Dust Control Plan is to identify, prevent, and control dust emissions throughout the Strategic Materials Inc. ("SMI") Facility. It includes the following work practices to control particulate matter/dust:

1. Daily, weekly and monthly visual inspections and implementation of corrective actions;
2. Restricting traffic speed to an appropriate level on all interior facility roads.
3. Truck cleaning, including the sweeping of the exterior of truck bodies, to reduce errant transported glass pieces to public roadways where they can be ground to dust under tires; and
4. Training of heavy equipment and forklift operators to minimize spillage of raw materials associated with transporting.
5. Dust suppression /water misting as the season allows and which does not contribute to a storm water discharge.
6. Storage of all materials within covered bins that are enclosed on three sides
7. Covered delivery vehicles
8. Daily mechanical vacuum sweeping of the yard

Visual Inspection & Recording

Daily Visual Inspections

Daily Visual Inspections shall be conducted during first shift between the approximate hours of 12:00 p.m. to 3:00 p.m. and recorded in the Inspection Log. Conduct visible emissions observations in accordance with EPA Method 22 – Visual Determination of Fugitive Emissions.

The areas of concern to be inspected include, but are not limited to, incoming raw materials area, hopper loading area, doorways or building penetrations, baghouse stack emission points, finished product storage piles, dust collector area, and scale area. The following information shall be recorded:

1. The date of the inspection,
2. Name of staff member conducting the inspection,
3. Results of inspection/ observation,

4. Locations where the visible observations were made,
5. Water control method applied and rate, where applicable (water control methods include water distribution equipment, hose, sprinklers, and similar equipment),
6. If vehicles are dragging out particulate matter from the tires onto roads,
7. That tracking pads are in good operating condition to dislodge particulate matter from vehicle tires,
8. Conditions (e.g. cleanliness and/or dustiness) of the interior facility roads,
9. Size and condition of both raw material and finished product storage piles (e.g. any material observed extending beyond the front or sides of the bunker)
10. Condition of the entire wind wall, identifying any areas in need of repair,
11. Corrective actions needed or recommendations, if any.

Weekly Visual Inspections

Weekly Visual Dust Inspections shall be conducted once every 7 calendar days, during first shift between the approximate hours of 12:00 p.m. to 3:00 p.m., recorded in the Inspection Log, and include the following:

1. Ensure that the sweeper is in good operating condition or if repairs may be needed to eliminate it as a source of particulate emissions.
2. Obtain the services of an EPA certified observer in accordance with USEPA Method 9.
3. Conduct visible emissions observations in accordance with EPA Method 9.
4. Maintain a log book that identifies the name of the certified observer and a copy of their current certification, the date and time and the location where the readings were taken.
5. Evaluation and recommendations for improved dust minimization procedures.

Preventative/Corrective Measures

The Permittee shall take preventative and corrective measures that include, but are not limited to the following:

1. Maintain a Preventative and Corrective Measures Log Book that documents the date and the description of corrective actions taken to prevent or correct dust emission. All maintenance and corrective measure conducted on equipment e.g. vacuum sweeper and air pollution control equipment e.g. baghouses and dust wall must be documented with the measure taken and the date work was completed.
2. SMI personnel shall identify potential dust migration pathways, monitor for dust produced by site activities, and implement corrective actions as needed.

3. Traffic speed shall be restricted to an appropriate level on all designated roads. All designated roads will be considered high potential dust source areas and, as such, will be a priority for dust controls utilizing wet suppression and sweeping.
4. Plastic "cooler" strips shall be hung vertically across the opening of the overhead doors, allowing equipment to pass through and operations to continue while also reducing the amount of dust transfer from the building.
5. Unused building penetrations shall be sealed to improve the building envelope's integrity.
6. Truck drivers shall be instructed to sweep the exterior of truck bodies to reduce errant transported glass pieces to roadways where they can be ground to dust under tires.
7. Speed limit signs shall be posted to notify drivers that speeds are restricted.
8. Heavy equipment and forklift operators shall be trained to minimize spillage of raw materials associated with transporting.
9. Materials shall be loaded and unloaded from vehicles utilizing a drop height no greater than 2 feet, if feasible.
10. The Permittee shall conduct inspections of operations as needed, but no less than once daily to ensure there is a maximum drop height of 2 feet or less when transferring materials at all outdoor processes with the exception of loading finished materials into trucks.
11. Tracking pads constructed of crushed aggregate shall be utilized and maintained as necessary at the exit of the Facility to prevent dust from being tracked onto the road.
12. Hoods associated with the in-feed hoppers or in-pile conveyors shall be utilized to reduce the amount of wind-blown materials during loading.
13. All materials shall be stored within covered bins that are enclosed on three sides.
14. Vehicles arriving or leaving the Facility with either raw or finished materials shall be covered with a tight fitting tarp to minimize dust being discharged from the vehicle.
15. SMI personnel shall mechanically clean interior facility roads using a vacuum sweeper on a daily basis, in a manner that does not contribute to a condition of air pollution.

Attachment C
Baghouse Inspection and Maintenance

Daily (between the hours of 7:00 a.m. – 3:00 p.m.)

1. Check and record the pressure differential reading once per shift for each baghouse. (normal operating pressure drop is between 2"- 3.5" water gauge for all 3 baghouses)
2. Monitor cleaning cycle; pilot lights or meters on control panel.
3. Check compressed air on pulse jet baghouses.
4. Monitor discharge system; make sure dust is removed as needed.
5. Walk around baghouse to check for normal or abnormal visual and audible conditions.
6. Check collection hoppers for collected dust levels and empty as necessary.

Weekly

1. Check all moving parts on the discharge system; screw-conveyor bearings
2. Check compressed air lines including oilers and filters.
3. Blow out manometer lines.
4. Verify temperature-indicating equipment.
5. Check bag-cleaning sequence to see that all valves are seating properly.
6. Check variable speed drive components on the fan.

Monthly

1. Spot check bag-seating condition.
2. Check fan for corrosion and blade wear.
3. Check all hoses and clamps.
4. Spot check for bag leaks and holes.
5. Inspect baghouse housing for corrosion.

Quarterly

1. Thoroughly inspect bags.
2. Replace any leaking bags
3. Check duct for dust buildup.
4. Check gaskets on all doors.
5. Inspect paint on baghouse.
6. Inspect baffle plate for wear.

Annually

1. Conduct black light test.
2. Check all welds and bolts.
3. Check hopper for wear.
4. Replace high-wear parts on cleaning system.
5. Check/test electrical interlock system and audible alarm on each baghouse.